



Directions:

ADULTS: Take 1 tablet 3 times daily with food or as directed by a health care practitioner. Avoid taking at bedtime. Consult a health care practitioner prior to use if you are pregnant or breastfeeding, or if symptoms worsen. May cause mild gastrointestinal disturbances such as mild gastrointestinal bloating, constipation or indigestion.

FEATURES

Enerex Free Flex contains 100 mg MSM, 40 mg Bamboo Silica, and 100 mg Vitamin C, offers a superior approach to treatment and prevention of joint and ligament issues. Here is the research to explain why:

TYPE II COLLAGEN

There are several components of Type II Collagen that have multiple protective benefits. They may:

- resist cartilage protein-digesting enzymes that break down cartilage;
- help chondrocytes to produce new collagen;
- promote building new cartilage;
- increase production of hyaluronic acid to produce synovial fluid that cushions joints; and
- protect cartilage from free radical damage.

Hydrolyzed Type II Collagen is a patented formula from Switzerland. It is hydrolyzed (broken into tiny particles using water and enzymes) so that it is easily absorbed and utilized by the body.

In a 2002 study, the interaction between tissue in the digestive system and oral Type II Collagen effectively deactivate this killer T-cell attack. Hydrolyzed Type II Collagen reduced joint pain and periods of rest and pain from using the joint, and loss of joint range of motion. (Bagchi D1, Misner University Medical Center, Nebraska, Int J Clin Pharmacol Res. 2002;22(3-4):101-10.)

A 2003 study of the British Nutrition Society found that hydrolyzed Type II Collagen increased production of Type II Collagen in bovine cells by 250%, but non-hydrolyzed

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forms had no stimulatory effect on chondrocytes, and didn't increase collagen production.

(Oesser, S. & Seifert, J. "Stimulation of type II collagen biosynthesis and secretion in bovine chondrocytes cultured with degraded collagen." Cell Tissue Res, 2003, 311:393-99.)

GLUCOSAMINE SULFATE

Research shows that Glucosamine Sulfate may play a role in reversing osteoarthritis, protecting joints and tendons from injury, and decreasing pain and inflammation in joints, tendons, cartilage and soft tissue.

The benefits of Glucosamine supplements are backed by over 300 scientific studies, according to Drs. J.E. Pizzorno and M.T. Murray, editors of the *Textbook of Natural Medicine (under Glucosamine, Chapter 94, Murray MT, St. Louis: Churchill Livingstone, Kindle Edition, 2013)*.

For example, a long-term British study published in 2001 concluded that Glucosamine Sulfate supplements may help to stop the progression of arthritis. In this double-blind, placebo-controlled study, 212 patients suffering from knee osteoarthritis received either 1500 mg of Glucosamine or a placebo for 3 years. Patients who received a placebo experienced further loss of cartilage, but patients who received Glucosamine showed no further loss. Additionally, pain and function limitation worsened with the placebo, but improved with Glucosamine.

(JY Reginster, R Deroisy et al, "Long-term effects of glucosamine sulphate on osteoarthritis progression: a randomised, placebo-controlled clinical trial." Lancet, 2001 Jan 27;357(9252):251-6. Bone and Cartilage Metabolism Research Unit (WHO Collaborating Center for Public Aspects of Osteoarticular Disorders), University of Liege, Belgium)

The right form

The Glucosamine in joint-related supplements is typically chemically extracted from crustaceans' (lobster, crab) outer shells and then processed to change its nature. However, how well it is absorbed by the gastrointestinal tract and how well it is transported in the body is not well known. Enerex prefers a non-animal Glucosamine Sulfate for its **Free Flex** formula which may mimic the human tissue and be better used by the body — and therefore have more effect.

MSM (METHYL SULFONYL METHANE)

MSM (Methyl Sulfonyl Methane) is a naturally occurring organic sulfur compound important in the formation of collagen and glucosamine; and well documented research shows this

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effectiveness in helping to reduce pain and inflammation, and in maintaining bones and joints. MSM “gives up” its important sulfur to the essential amino acids methionine, cysteine and other proteins in the body, eventually finding its way into the collagen of skin, joints and blood vessels. This has great benefits for joints including knees and hips:

A 2005 clinical trial conducted with 50 men and women 40 to 76 years of age with knee osteoarthritis pain found improvements using MSM. Patients were given 3 grams MSM or placebo twice a day for 12 weeks (6 g/day total). Researchers studied the changes in the disease severity, response to therapy, and overall change in quality of life. Compared to placebo, MSM produced significant decreases in pain and physical function impairment. MSM also produced improvement in performing activities of daily living when compared to placebo. (Dr. LS Kim, Dr. LJ Axelrod et al., “Efficacy of methylsulfonylmethane (MSM) in osteoarthritis pain of the knee” Oct. 2005; *Osteoarthritis and Cartilage Journal*, Volume 14, Issue 3, Pages 286–294)

1 + 1 = 3: they’re better added together

The combination of Glucosamine and MSM has been clinically proven to be of greater benefit than either one alone.

A double-blind trial in 2004 comparing MSM, Glucosamine, both, or placebo for osteoarthritis of the knee was given to 30 patients per group. The dose was 1,500 mg per day for 12 weeks. Effectiveness was judged by amount of pain, swelling and walking time. There were significant decreases in pain with Glucosamine and MSM, but the combination of the two resulted in an even greater decrease in pain. Together, they produced an analgesic and anti-inflammatory effect in, reducing swelling and improving the function of osteoarthritic joints. (Usha PR, Naidu MUR, “Randomised, double-blind, placebo-controlled study of oral glucosamine, methylsulfonylmethane and their combination in osteoarthritis.” *Clin Drug Invest* 2004; Volume 24:353-63.)

BAMBOO SILICA

Silica, including the Silica derived from Bamboo, has important implications in managing arthritis pain. Silica stimulates cells in the body called chondroblasts to deposit chondroitin sulfate and hyaluronic acid into your cartilage. These are vital to healthy joints and ligaments. This Silica-chondroblast relationship within the body also improves the function of Glucosamine Sulfate. This is important because Glucosamine is the precursor of both chondroitin sulfate and hyaluronic acid.

NOTE: Some research shows that supplements of chondroitin sulfate and particularly hyaluronic acid may only provide a little if any benefit in dealing with arthritis or joint health.

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This is because chondroitin sulfate is thought to be difficult to use, and is simply broken down into glucose (sugar) by the digestive enzymes in the stomach. Hyaluronic acid is a large, more complex molecule that is also difficult to absorb in supplement form and will also be reduced to a sugar during digestion.

Why do you need Silica? Here are several good reasons.

- Silica is vital for joint health and flexibility because it helps nutrients called chondroitin sulfate and hyaluronic acid to be deposited into cartilage, and aids in forming collagen in connective tissues. This has important implications for managing arthritis.
- It is essential for normal bone development and may help to prevent osteoporosis and re-calcify bones (and decalcify unhealthy deposits of calcium in other tissue).
- It plays a role in mineral absorption, and enhances the function of iron, calcium, magnesium, potassium and boron in the body.
- Silica may be useful in strengthening the musculoskeletal system, preventing muscle/bone injuries and helping them heal.
- Silica helps to create healthy, toned, youthful skin by providing strength and resilience to collagen and elastin; and it has been used to alleviate eczema and psoriasis.

Getting enough?

Your body's level of Silicon declines with age because less of it is being processed and used — it is more difficult to absorb from food. As levels of Silicon decline, your body shows the telltale signs of aging such as dry, wrinkled skin, sagging muscles, weakened teeth, hair loss, stiff joints and bone loss.

It is also difficult to get enough in your diet (Silicon is found in tiny amounts in foods like oats, millet, barley, potatoes, beans and mussels). Therefore getting a daily supply with Bamboo Silica may help maintain this necessary balance and minimize the effects of premature aging.

Studies continue to show the relationship to Silicon and bone health, which has a dramatic effect on joints. It may strengthen the musculoskeletal system, preventing joint/bone/muscle injuries, and helping them heal.

One 2011 study showed that Silicon has biological activity for bone formation when incorporated into bone grafts for surgical procedures (this study implanted it into the paraspinal muscles of sheep). It found that Silicon significantly increased the amount of bone that formed, and researchers confirmed that it should be recognized as an essential nutrient for bone health and maintenance. (MJ. Coathup, S. Samizadeh, et al, "The osteoinductivity of silicate-substituted calcium phosphate," *American Journal of Bone and Joint Surgery*, vol. 93, no. 23, pp. 2219–2226, 2011.)

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Silicon and connective tissue

Research done by Dr. Carlisle in the late 1980s showed that a deficiency of Silicon was found in animals that had malformed bones and cartilage

He states, "Silicon's primary effect in bone and cartilage is on the matrix, with formation of the organic matrix appearing to be more severely affected by silicon deficiency than the mineralization process." It appears that the two fibrous proteins necessary for healthy connective tissue, collagen and elastin, and also the glycosaminoglycans, are dependent on a specific enzyme to make connective tissue. Not only is this enzyme lower in Silicon- deficient tissues, but it increases when Silicon is added. *(Carlisle EM, "Silicon as an essential trace element in animal nutrition", Ciba Found Symp 1986;121:123-139) and (Carlisle EM, "Silicon as a trace nutrient." Sci Total Environ 1988 Jul 1;73(1-2):95-106)*

VITAMIN C

The vital vitamin

Vitamin C is included in **Enerex Free Flex** because it is required to help make connective tissue, particularly chondroitin sulfate and collagen, the building material in joints. Vitamin C also has an important role in wound healing. Here is an interesting study:

In a 2003 study of residents of Norfolk, UK, 73 men and women aged 45–74 years who were recruited between 1993 and 1997 for a long-term health study went on to develop arthritis, assessed by general practitioners. It was found by British researchers examining results more recently that eating less fruit and vegetables and getting less Vitamin C were associated with an increased risk of developing arthritis. And those with the lowest intake of Vitamin C increased their risk of developing inflammatory arthritis more than threefold. *(DJ Pattison, AJ Silman, et al., "Vitamin C and the risk of developing inflammatory polyarthritis: prospective nested case-control study", Ann Rheum Dis 2004;63:843-847 doi:10.1136/ard.2003.016097, Arthritis Research Campaign, Epidemiology Unit, University of Manchester, UK)*

More reasons to take it

Vital to mention, too, is that Vitamin C is a powerful antioxidant. Antioxidants protect joints from free-radical damage, and Vitamin C is often found to be low in those who suffer from arthritic conditions. Antioxidants and inflammation are closely connected. If antioxidants are supplemented daily to offset this decline in the amount that are produced, the body can better

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manage inflammation, which results in faster relief from joint pain and stiffness, and a reduced risk of bone and joint diseases.

The Vitamin C in this formula also helps to preserve the other ingredients, thereby ensuring maximum effectiveness from each ingredient. As you age, your cells slow the production of these protective antioxidants.

PACKAGING

Why should you care about Enerex Free Flex's bottle? We chose this packaging because it protects the product and the planet.

Enerex products are housed in recyclable BPA-free PETE plastic containers to provide the best protection against oxidation, moisture, sunlight, and "chemical migration" from container to product (so the supplements don't acquire toxins from the plastic). In all of these areas, PETE is virtually equal to glass but without the larger environmental footprint left by glass packaging (it's very heavy to transport, using more fossil fuel).

PETE plastic is far superior to that of HDPE plastic: HDPE plastic is used for the majority of products on the market, but unlike more costly PETE bottles, HDPE plastic starts to immediately degrade the product inside because it doesn't provide a protective barrier to oxygen or moisture. Studies show high concentrations of chemicals that have migrated from HDPE bottles to the product inside compared to PETE and glass bottles.

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